**Balochistan University of Engineering and Technology Khuzdar**

**Department of Biomedical Engineering**

**Scheme of Studies**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1st Semester** | | | | |  | **2nd Semester** | | | |  |
| **S.#** | **Course** | **CH** | **K/area** | **Code** |  | **S.#** | **Course** | **CH** | **K/area** | **Code** |
|  | Applied Physics | 2 + 1 | IDEE | NS-122 |  |  | Pakistan Studies | 2 + 0 | IDEE | HS-105 |
|  | Introduction to Computing | 2 + 1 | IDEE | CS-113 |  | 2. | Calculus and Analytical Geometry | 3 + 0 | IDEE | NS-116 |
|  | Basic Electrical Engineering | 3 + 1 | IDEE | EE-120 |  | 3. | Physiology I | 2 + 1 | Major | BME-123 |
|  | Basic Mathematics | 4 + 0 | IDEE | BMF-114 |  | 4. | Circuit Analysis | 3 + 1 | IDEE | EE-121 |
|  | Basic Biology |  | IDEE | BMF-114 |  | 5. | Object Oriented Programming | 2 + 1 | IDEE | CS-125 |
|  | Introduction to Biomedical Engineering | 1 + 0 | Major | BME-115 |  | 6. | Human Anatomy | 2 + 1 | Major | BME-126 |
|  | Islamic Studies/Ethical Behavior | 2 + 0 | IDEE | HS-117/ HS-116 |  |  |  |  |  |  |
| **Total Credit Hours** | | **17** |  |  |  | **Total Credit Hours** | | **18** |  |  |
| **3rd Semester** | | | |  |  | **4th Semester** | | | |  |
|  | Complex Variable & Transformation | 3 + 0 | IDEE | NS-211 |  |  | Biomedical Electronics | 3 + 1 | Major | BME-241 |
|  | Physiology II | 2 + 1 | Major | BME-232 |  |  | Digital Logic Design | 3 + 1 | IDEE | CS-219 |
|  | Biochemistry | 2 + 1 | Major | BME-233 |  |  | Linear Algebra & Differential Equation | 3 + 0 | IDEE | NS-223 |
|  | Basic Electronics | 3 + 1 | IDEE | EL-103 |  |  | Probability and Statistics | 3 + 0 | IDEE | NS-312 |
|  | Computer Aided Engineering Drawing | 0 +1 | IDEE | EE-315 |  |  | Signals & Systems | 3 + 1 | IDEE | EE-224 |
|  | Communication Skills | 2 + 0 | IDEE | HS-119 |  | **Total Credit Hours** | | **18** |  |  |
| **Total Credit Hours** | | 16 |  |  |  |  | |  |  |  |
|  | **5th Semester** |  |  |  |  |  | **6th Semester** |  |  |  |
|  | Biomedical Instrumentation 1 | 3 + 1 | Major | BME-351 |  |  | Biomedical Instrumentation II | 3 + 1 | Major | BME-361 |
|  | Biomechanics | 3 + 1 | Major | BME-244 |  |  | Elective I | 3 + 0 | IDEE | BM-362 |
|  | Numerical Methods | 3 + 0 | IDEE | NS-313 |  |  | Biomedical Control Systems | 3 + 1 | Major | BME-363 |
|  | Microprocessor & Interfacing | 2 + 1 | IDEE | EE-314 |  |  | Modeling & Simulation | 2 + 1 | Major | CS-324 |
|  | Biomedical Signal Processing | 3 + 1 | Major | BME-355 |  |  | Biomaterials | 3 + 1 | Major | BME-365 |
| **Total Credit Hours** | | **18** |  |  |  | **Total Credit Hours** | | **18** |  |  |
|  | **7th Semester** |  |  |  |  |  | **8th Semester** |  |  |  |
|  | Engineering Management | 3 + 0 | Major | MS-411 |  |  | Elective IV | 3 + 0 | IDEE | BM-481 |
|  | Medical Imaging | 2 + 1 | Major | BME-472 |  |  | Professional Practices & Ethics | 3 + 0 | IDEE | MS-422 |
|  | Elective II | 3 + 0 | IDEE | BME-473 |  |  | Elective V | 3 + 0 |  | BM-483 |
|  | Elective III | 3 + 0 | IDEE | BM-474 |  |  | Biomedical Engineering Project (Phase II) | 0 + 3 | Major | BMP-474 |
|  | Technical Report Writing | 3 + 0 | IDEE | HS-415 |  |  | Entrepreneurship | 3 + 0 | IDEE | MS-304 |
|  | Biomedical Engineering Project (Phase I) | 0 + 3 | Major | BMP-474 |  | **Total Credit Hours** | | 15 |  |  |
| **Total Credit Hours** | | **18** |  |  |  |  | |  |  |  |

Board of studies meeting held on …………July, 7, 2022……………..

The composition was approved vide Notification No…BUETK/ESTT-865/22/4218-28….dated ………June, 27, 2022………….

BM = Biomedical

BME = Biomedical Engineering

BMF = Biomedical Medical Foundation